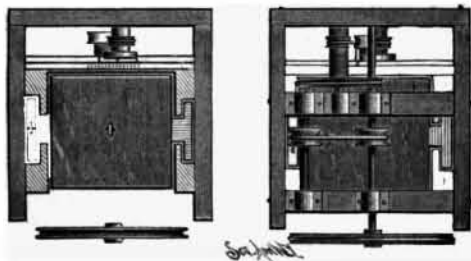


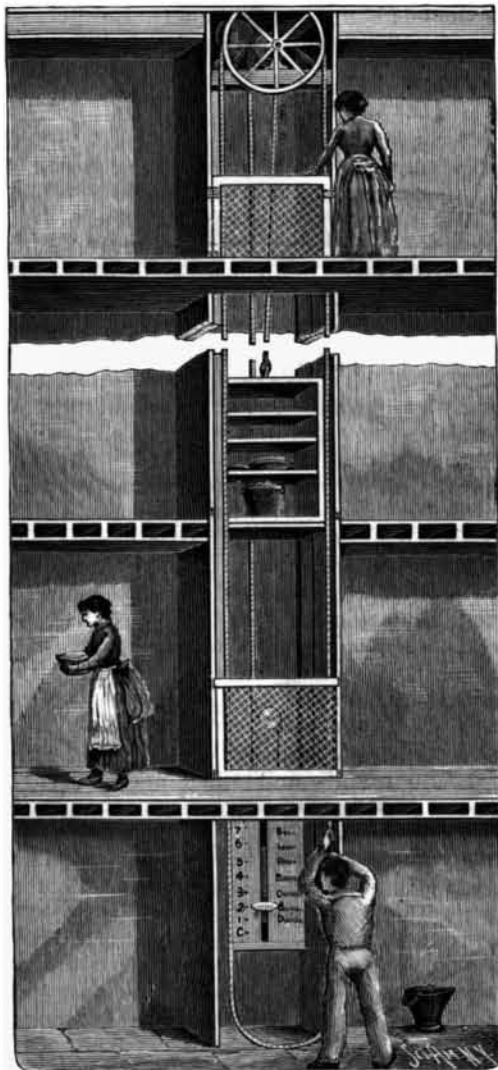
AN IMPROVED DUMB-WAITER INDICATOR.

In the accompanying illustrations is shown an automatically operating and effective device, whereby an operator on the ground floor will be always able to see at a glance the location of the dumb-waiter, no matter at what height in the shaft it may be. It is a patented invention of Mr. Louis Friess, of No. 155 West Eighty-third Street, New York City. The dumb-waiter is suspended in the shaft in the usual way, the rope therefrom extending over two small grooved pulleys at the top and thence downwardly to its connection with the counterbalance weight. To vertically move the car, a large grooved wheel on the front end of the shaft, from which the car is suspended, is operated by means of an endless hand rope, such rope extending over the wheel and down on either side to the bottom of the shaft. On



DUMB-WAITER INDICATOR.
Plan and Sectional Views.

an intermediate cross bar at the top and on the rear wall of the elevator shaft is journaled a short drum-shaft, with a large pulley, as shown in one of the small views, to which motion is communicated from a small pulley on the main shaft by a taut band, the difference in the size of the pulley determining the travel of the pointer of the indicator. A rope or cord from this drum shaft extends downward around a grooved pulley pivoted on a weighted sliding block, and thence upward to an attachment on the rear wall of the shaft. This



FRIESS' INDICATOR FOR DUMB-WAITERS, ETC.

attachment is made upon a short shaft, which has a small hand wheel, convenient for regulation from one of the floors of the building, and by which any slackening of the cord may be taken up. The indicator face plate, to be seen at the rear of the shaft on the ground floor, has spaces for the reception of the names of the occupants of the different floors, with the number of the floors in regular order, and a stud from the weighted sliding block of the indicator device projects through a vertical slot in the face plate, this stud bearing a pointer to indicate the position of the dumb-waiter or elevator car above it.

A NEW COMPOUND OF PHOSPHORUS.—Professor T. E. Thorpe, the well known chemist, has discovered a new compound of phosphorus (P_4O_6), which takes the form of acicular crystals, melts with the warmth of the hand, and glows under the same conditions as phosphorus. It burns readily in oxygen and chlorine, and forms a new compound with ethyl alcohol.

Colored Fires.

For the benefit of those who may wish to celebrate the "birthday of our country," we copy from the *Western Druggist*:

Red Fire.

Strontium nitrate..... 3 parts.
Potassium chlorate..... 1 "
Shellac, in coarse powder..... 1 "
Mix.

Green Fire.

Barium nitrate..... 3 parts.
Potassium chlorate..... 1 "
Shellac..... 1 "
Mix.

Violet Fire.

Calcium carbonate..... 2 parts.
Malachite..... 2 "
Sulphur..... 2 "
Potassium chlorate..... 6 "
Mix.

Purple Fire.

Copper sulphide..... 1 parts.
Strontium nitrate..... 14 "
Calomel..... 14 "
Potassium chlorate..... 15 "
Shellac..... 5 "
Mix.

On account of the calomel, this must not be burnt indoors.

Yellow Fire.

Sodium nitrate..... 3 parts.
Potassium chlorate..... 1 "
Shellac..... 1 "
Mix.

Blue Fire.

Copper ammonia sulphate..... 3 parts.
Potassium chlorate..... 1 "
Shellac..... 1 "
Mix.

A TAIL GUARD AND LINE REST FOR HARNESS.

The attachment shown herewith, which is applicable to any harness, is designed to prevent the tail of the horse from becoming entangled with the lines, and also provides a rest whereby the lines will be held above and kept from entanglement with the harness. It has been patented by Mr. David Hand, of Netherwood, N. J. The body of the device consists of a metal strip bent in V shape, with the ends of its members bent upward and outward, where they are attached to and support a horizontal rest bar having upturned ends or rings for the reception of the reins. The body of the device is curved longitudinally and in cross section, as shown in the small view, to conform to the back and crupper of the animal, to which it is attached by means of an integral loop and billet, there being a pad on the under face of the body bar, so that it will not chafe or injure the back of the animal. At the forward end of the device is a short neck to which is secured a strap and buckle for attachment to the back strap of the harness.

Trust Not Trusts.

The *Shipping List* prints the following list of trusts which are now in existence in the United States:

- | | |
|--------------------------------|--|
| Match Trust. | Gutta Percha Trust. |
| Steel Rail Trust. | Copper Trust. |
| Jute Bag Trust. | Zinc Trust. |
| Cordage Trust. | Slate Pencil Trust. |
| Kerosene (Standard) Oil Trust. | Iron Nut and Washer Trust. |
| Borax Trust. | Oil Cloth Trust. |
| Cotton Seed Oil Trust. | Ultramarine Trust. |
| Linseed Oil Trust. | Whisky Trust. |
| Paper Envelope Trust. | Gas Trust. |
| Nail Trust. | Dressed Beef Trust. |
| Barbed Fence Trust. | Distillers' and Cattle Feeders' Trust. |
| Lead Trust. | Starch Trust. |
| Nickel Trust. | Cigarette Trust. |
| Sugar Trust. | Straw Braid Trust. |
| School Book Trust. | |

AN IMPROVED FENCE POST.

A metal fence post designed to be easily planted, to sustain a wire fence, or to which a supplementary wooden post may be attached, for rails or boards, is shown in the illustration, and has been patented by Mr. Jacob Copenhaver, of Glen Hope, Pa. The blade is broad enough to give it a firm hold upon the soil, and has ribbed edges and a spear-shaped point. At the top it has a shank, with holes, as shown in Fig. 2, for the attachment of a supplementary wooden or metal post, there being near the upper end of the blade a projecting strap or bracket, through which a wooden post may be driven, as shown in Fig. 1. When a wire fence is to be supported, a short stake is driven through the bracket into the ground, as in Fig. 3, the supplementary metal post, consisting of two vertically-separable strips of metal, being attached to the shank by bolts passed through the holes provided therefor, the two parts of the post being thus clamped together. The supplementary metal posts have recesses or grooves to receive the wires, and the top parts of these posts, above the shank, are held together by clasps or clamping pieces, which fit closely upon the post.

AN IMPROVED TILE OR BRICK CUTTING TABLE.

An easy-running labor-saving device, designed to cut a strip of clay as it issues from the dies into bricks or tiles, the strip of clay furnishing all the operative force required, is represented in the accompanying illustration.



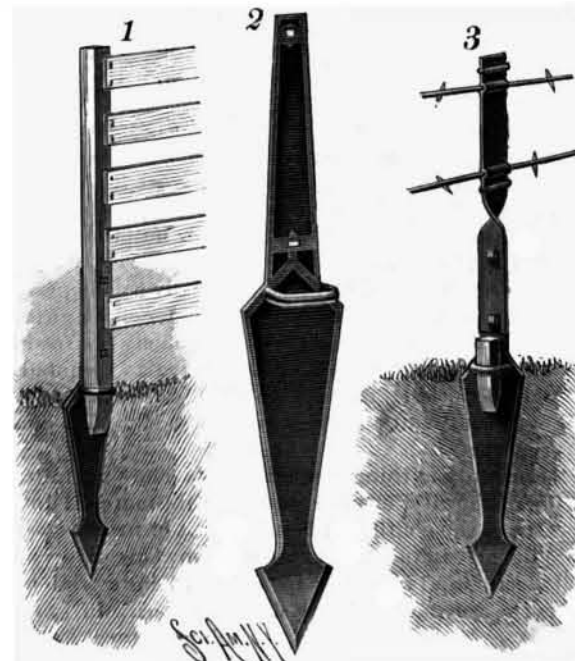
BENSING'S TILE OR BRICK CUTTING TABLE.

tion, and has been patented by Mr. Jacob Bensing, of Malinta, Ohio. On the inner sides of the supporting frame are horizontal metal side plates, having flanges on their inner sides forming guides for an endless carrier, made up of transverse outer and inner blocks connected together and running upon anti-friction rollers, there being a vertical standard upon each end of all the outer blocks of the carrier. In vertical side standards of the frame a transverse shaft is journaled above the carrier, and upon this shaft is keyed a disk, on which sockets may be radially located. A cutter frame is designed to be attached to each socket, each such frame consisting of two sections having on each right-angled outer portion an anti-friction roller, a tongue on its inner end allowing of its adjustment in the socket to regulate the position of the cutter frame relative to the disk. A cutter wire connects the outer ends of the cut-



HAND'S TAIL GUARD AND LINE REST.

ter frame sections, the wire being passed through a hook extension of a thumb nut seated in a screw-threaded bearing in one of the sections, whereby the wire may always be held rigid. In operation, as one cutter frame is beginning to ascend from the carrier the wire of one of the following frames is about entering the strip, the cutting being regularly and evenly spaced, and the movement of the standards automatically revolving the cutter. The cutter wire necessarily follows the perpendicular face of the standard in its movement into and out of the strip, and the carriers are so hinged that the standards cannot tilt or get out of a vertical position. All dirt caused by the cutting falls between the blocks, so as not to form any obstruction, and all parts of the device are designed to operate with the slightest possible friction.



COPENHAVER'S FENCE POST.